

Title (en)  
STORAGE DEVICE INCLUDING MEMORY CONTROLLER AND OPERATING METHOD OF THE MEMORY CONTROLLER

Title (de)  
SPEICHERVORRICHTUNG MIT SPEICHERSTEUERUNG UND BETRIEBSVERFAHREN DER SPEICHERSTEUERUNG

Title (fr)  
DISPOSITIF DE STOCKAGE COMPRENANT UN CONTRÔLEUR DE MÉMOIRE ET PROCÉDÉ DE FONCTIONNEMENT DU CONTRÔLEUR DE MÉMOIRE

Publication  
**EP 4024219 A1 20220706 (EN)**

Application  
**EP 21206530 A 20211104**

Priority  

- KR 20200188208 A 20201230
- KR 20210034866 A 20210317

Abstract (en)  
A storage device (1000) including a memory controller (100) and an operating method of the memory controller are provided. The storage device includes a non-volatile memory device (200) including a write buffer configured to store write data provided from a host (2000) and a journal buffer configured to store a journal log, a volatile memory device (300) configured to temporarily store metadata (320), and a memory controller configured to provide the non-volatile memory device with a journaling command, that includes the journal log and the physical address corresponding to the journal buffer, and which issues a command to store the journal log in the journal buffer, to update the metadata temporarily stored in the volatile memory device, and to control the volatile memory device to store updated metadata to the non-volatile memory device.

IPC 8 full level  
**G06F 12/02** (2006.01)

CPC (source: CN EP US)  
**G06F 3/0604** (2013.01 - US); **G06F 3/064** (2013.01 - US); **G06F 3/0656** (2013.01 - US); **G06F 3/0659** (2013.01 - US); **G06F 3/068** (2013.01 - US); **G06F 11/1004** (2013.01 - US); **G06F 11/1469** (2013.01 - CN); **G06F 11/1471** (2013.01 - CN); **G06F 12/0246** (2013.01 - EP); **G06F 12/10** (2013.01 - US); **G06F 2212/1032** (2013.01 - EP); **G06F 2212/657** (2013.01 - US); **G06F 2212/7201** (2013.01 - EP); **G06F 2212/7202** (2013.01 - EP); **G06F 2212/7203** (2013.01 - EP); **G06F 2212/7207** (2013.01 - EP)

Citation (search report)  

- [IA] US 10254983 B2 20190409 - TOMLIN ANDREW J [US], et al
- [A] US 9830257 B1 20171128 - BOOTH JING [US], et al
- [A] JP 4362839 B1 20091111

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 4024219 A1 20220706**; **EP 4024219 B1 20230614**; CN 114691420 A 20220701; US 11983440 B2 20240514; US 2022206713 A1 20220630

DOCDB simple family (application)  
**EP 21206530 A 20211104**; CN 202111414918 A 20211125; US 202117470720 A 20210909